



Infrastructure Technologies

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ABN 41 687 119 230

Registered Testing Authority - CSIRO

7 December 2014

Our Ref: EN13 / 1135 03/0211

TEST REPORT No. 7234

Requested by: Wet-seal
on (date): 19 November 2014
Product Descriptions: Wet-seal DS 411 External Waterproof Membrane/Fabric system
Batch Number DS 19 15 12 AX (Uluru)
Manufacturer: Wet-seal
Sampling Details
Date: 19 November 2014
How (methods): Delivered to Highett

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This test report consists of 4 pages.

SUMMARY OF ASSESSMENTS REPORTED

AS/NZS 4858:2004	Appendix A, Durability of waterproof membranes	Pass
AS/NZS 4858:2004	Appendix B, Resistance of Waterproofing Membranes to Cyclic Movement	Pass
AS 3558.-1999	Water Absorption	1.99%
ASTM E96	Moisture Vapour Transmission	Pass
AS/NZS 4654.1:2009	Appendix A, Durability of waterproof membranes Heat Ageing @ 80°C	PASS
AS 4654.1:2009	Tensile strength	53.59N
AS 4347.9:2002	Thickness (Mean of sample provided for assessment)	1.00mm
ASTM C794	Adhesion-In-Peel of elastomeric joint sealants:	
	Aluminium	16.79 N
	Glass	1.25 N
	Mortar	5.85 N

TERM OF VALIDITY

This CSIRO wet area membrane report will lapse three years after the initial date of issue and assessment unless revalidation has been requested and granted.

The validity date for report 7234 is 7 December 2017



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SUMMARY OF RESULTS

AS4858:2004 Wet Area Membranes

Appendix A: Assessment of Durability of waterproof membranes

The sample requires an elongation at break strain percentage greater than 34% at 56 days.
Note: (34% equates to 50% of control elongation at break strain percentage).

Durability of membranes: Elongation to break Strain %.

Report No.	6023	7234	
Control	68%	78%	Class II
Water Immersion	67%		PASS
Detergent Immersion	67%		PASS
Bleach Immersion	73%		PASS
Heat Ageing - 50 °C	71%		PASS
Heat Ageing - 80 °C	85%		PASS

WET-SEAL test sample, Wet-seal DS 411 External Waterproof Membrane achieves the performance requirements of AS/NZS 4858: 2004 Durability of Membranes for Class II membrane installation.

Appendix B: Assessment of resistance of waterproofing membranes to cyclic movement

Class II type membrane: 2mm gauge length for a 0.34mm extension, repeated 50 cycles.

Requirement: No fatigue cracking exhibited.

Result: **PASS**

The Water Vapour Transmission (WVT) in accordance to ASTM E96: **0.78g/m²/24h**

Appendix C: Suitability of waterproofing membranes when used over particle board

Appendix C will not be required as the Wet-seal DS 411 External Waterproof Membrane has a water vapour transmission below 8g/m²/24h.

AS 3558.1 Methods of testing plastics & composite materials sanitary plumbing fixtures:

Method 1: Determination of water absorption characteristics

Water absorption:	Sample 1	1.99%	
	Sample 2	1.77%	
	Sample 3	1.37%	Maximum 1.99%

Conclusion: Wet-seal DS 411 External Waterproof Membrane does not require a 'Suitability over particleboard' to pass the requirements of AS/NZS 4858 Wet area membranes.



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TEST CARRIED OUT IN ACCORDANCE WITH AS4858:2004 Wet Area Membranes Test Date: 2 December 2014
Appendix A: Assessment of Durability of waterproof membranes

RESULTS: Location: Ceramic Tile Laboratory
Conditions: 7 days at 23°C 55%RH
Sample Number: 7234 - 1 (Numbered 1 to 5)
Samples: Average of 5 samples
Load rate: 150mm/min

Elongation at Break

CONTROL SET

Sample Number	Sample Thickness Mean (mm)	Maximum Load (N)	Maximum Extension (mm)	Maximum Stress MPa	Maximum Strain %
7234 – 1 1 to 5	0.89	29.20	25.76	5.47	78

Requirement for Class II: The specimens have an average percentage strain of $\geq 60\%$ & $\leq 299\%$.

Classification: Class II (Medium extensibility)



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Date and Place 7 December 2014 Highett, Vic

Name, Title and Signature:



ANDY GIANG
TECHNICAL OFFICER

SLIPS, SURFACES & FINISHES
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